



# ROCHESTER

— Minnesota —

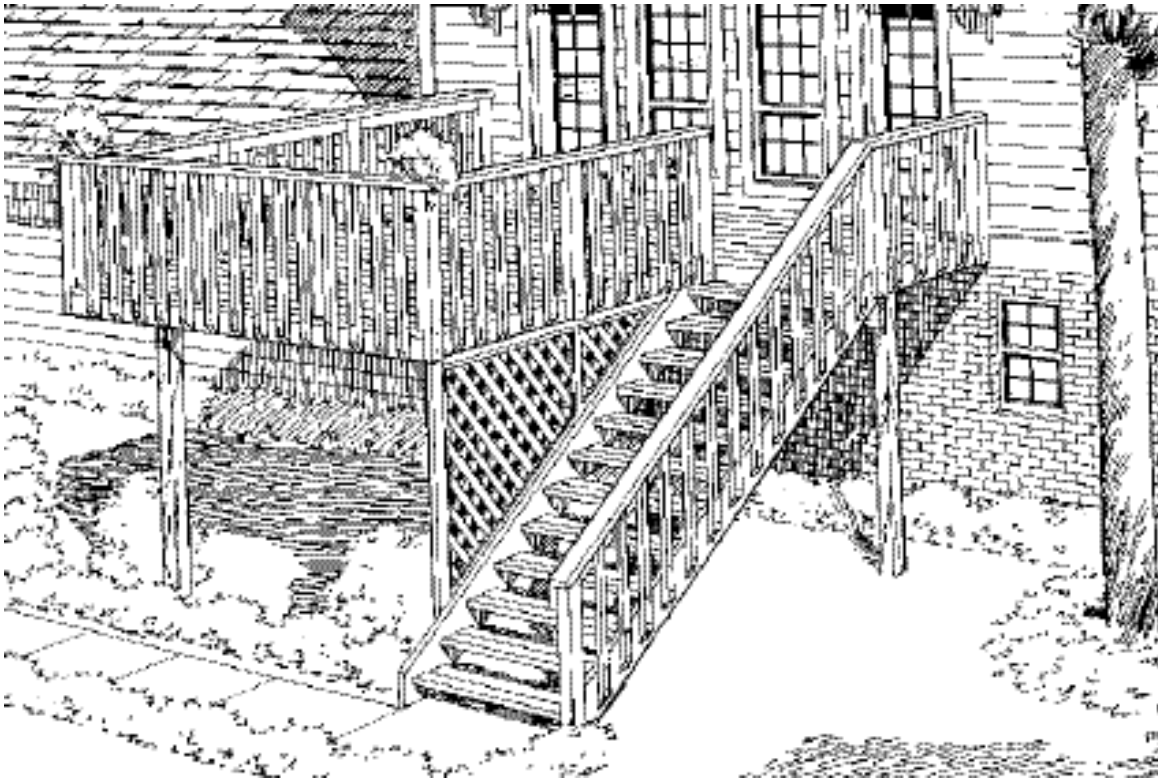
## Building Safety Department

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## Residential Decks

1 & 2 Family Dwellings and Townhomes

2015



MR = Minnesota State Residential Code extracted from 2015 Minnesota Rules

IRC = International Residential Code-2012

NEC = National Electrical Code-2014

# **Residential Decks**

## **Building Permit Requirements:**

Building permits are required for the construction of all decks that are attached to the home. Building permits are also required for freestanding decks that are elevated 30" or more above grade with supporting beams, joists, or posts. Deck construction shall meet the requirements of the 2015 Minnesota State Residential Code which adopts and amends the 2012 International Residential Code.

## **Zoning Requirements:**

Decks are also required to meet the land use and setback requirements of the Rochester Land Development Manual and Zoning Ordinances. Zoning questions should be directed to the Rochester-Olmsted Planning Department at 507-328-7100.

## **Permit Fees:**

The building permit fees are based on value of improvements and are designed to offset the cost of the plan review and inspection services. An estimate of the permit costs (based on project's finished value) may be obtained by calling the Building Safety Department. The fee schedule is also available on our website at: <http://www.rochestermn.gov/departments/building-safety/construction-residential>.

## **Plan Review & Inspections:**

The plan review is done by the plans examiner prior to construction in order to identify potential problems or pitfalls. Typically the plan review for a residential deck will be done at the counter during normal work hours. Construction inspections will be done during the project to ensure code compliance and that the materials used are installed correctly. The plan review and inspections are not designed to be a guarantee of the work; rather they are done to provide a reasonable degree of review and observation so the project will be successful, safe and long lasting.

## **Submittals for permit:**

The following information is necessary for the Building Safety Department to do a proper plan review and to help the project go as smoothly as possible.

**Note: Sample plans provided in this handout are intended as a guide only.**

- A completed building permit application form.
- Two copies of the site plan. The site plan should indicate the existing structures, proposed deck location and lot dimensions (see sample site plan attached). A copy of the existing site plan may be obtained from the Building Safety Department.
- Two copies of the construction plans showing the proposed design and materials. Plans shall be drawn to scale and indicate the following information:
  - A. A floor plan including the following:
    1. Proposed deck size with dimensions
    2. Size and spacing of floor joists

3. Size and type of decking material
  4. Size, location and spacing of posts including post connection to footing
  5. Location of door and window openings adjacent to location of deck
  6. Size of beams--also indicating post/beam connection
  7. Species and grade of lumber to be used
- B. Elevations indicating the following:
1. Height of structure from established grade
  2. Size and depth of footings
  3. Guard height and spacing of intermediates
  4. Stairway rise/run and handrail requirements
  5. Clearance to overhead wires, if applicable

### **Building Design/Plans**

**Due to the new Code change, reference should be made to the American Wood Council (AWC) website for drawing aid prior to plan review submission.**

*Prescriptive Residential Wood Deck Construction Guide—Design for Code Acceptance #6 (DCA#6).*

<http://www.awc.org/codes/dcaindex.php>

*Applicants have the opportunity to draw/design their own plans for the deck construction; however, be aware that all of the construction components must be legible on the drawings when submitted for permits. Lumberyard plans may not show all the necessary components for submittal and acceptance. However, most lumberyards have either design programs or designers to assist you.*

### **Land-use Requirements:**

- Contact the Rochester-Olmsted Planning Department at 507-328-7100 for setback requirements and other zoning requirements.

### **Building Code Requirements:**

- Footings shall be designed and constructed below frost depth. A 42” minimum ground cover is required from bottom of footing to grade. MR 1303.1600
- Decks exposed to the weather must be constructed with wood of natural resistance to decay or treated wood. This includes horizontal members such as beams, joists, ledger boards and decking; and vertical members such as posts, poles, guards, handrails and columns. Other man-made products are subject to approval by the Building Safety Department before use.

Requirements for installation of composite decking may differ based on the manufacturer's installation instructions or approved testing. IRC R507.3

- Columns and posts supporting decks exposed to the weather or water splash must be supported and connected to concrete piers or metal pedestals. Columns and posts in contact with the ground or embedded in concrete must be of pressure treated wood approved for ground contact. IRC R317
- Decks shall be designed and constructed to support a minimum live load of 40 pounds per square foot. The dead load is assumed to be a minimum of 10 pounds per square foot, although some composite decks may require additional dead loads. Additional loads shall be considered if a spa or other equipment is to be placed on the deck. IRC R301.4, R301.5
- Ledger boards shall be bolted or lagged to the existing building framing with a minimum of one ½" x 5" lag screws or bolts at 8" on center with washers. All connections between the deck and dwelling must be flashed with corrosion-resistive flashing. Solid blocking must be provided for the attachment of the deck ledger board. IRC R507
- Verify ledger/rim connection at bump-outs. Alternate construction must be indicated on the plan for independent construction from the house ledger. In lieu of this construction, verification must be made prior to permit issuance and at the footing inspection that the house cantilever can support the additional loads of the proposed deck with a positive connection at the ledger/rim board. IRC R507
- Fasteners and hangers to be hot-dipped galvanized steel, stainless steel or copper. Due to new treating processes additional requirements may apply. To meet load requirements the proper fasteners shall be provided, per the hanger manufacturer. IRC R317.3; IRC R507
- Joists shall not cantilever beams by more than 2'-0", nor should beams cantilever posts by more than 1'-0" at each end. If a greater cantilever is desired, additional framing or design may be required. IRC R502.3.3
- Decks built to support a future porch or room addition should be constructed so that all potential imposed loads are taken into consideration; full porch plans should be submitted for future reference.
- Safety glazing for windows and doors shall be required when the edge of a door is within 24" of a window, within 60" of a hot tub/spa water's edge, within 60" of the top stair landing/bottom stair tread or within 60" of the stair walking surface. IRC R308
- Floor joists and stair stringers spaced at 24" inches on center require a minimum 2" nominal decking. For floor joists and stair stringers spaced at 16" inches on center, 1" decking or 5/4" decking may be used. However, 16" joist spacing cannot be used if 1" or 5/4" decking is placed diagonally. Composite decking used for stair treads may require closer stair stinger spacing per manufacturer instructions, such as, "12 inches on center." IRC R502.2; R507.3
- All decks, balconies or porches which are more than 30" above grade or a floor below must be protected by a guard a minimum of 36" above the finished deck surface. Guards and stair railings shall have horizontal, vertical, diagonal or other ornamental intermediate rails through which a sphere 4" in diameter cannot pass through. IRC R312
- Egress windows are allowed under decks, provided the location of the deck allows the emergency escape window to be fully opened and provides a path not less than 36" in heights to a yard or court. See emergency escape and rescue window handout. IRC R310.5
- Decks, porches, or balconies added to an existing dwelling must have a GFCI weatherproof receptacle added if the area exceeds 20 sq. ft. and has access from within the dwelling unit. (See electrical handout—*Electrical Permits and Inspections for Homeowners.*)

- The National Electric Code requires overhead power lines to be located a minimum of 10'0" above decks and platforms. Existing lines may need to be raised if a new deck is to be installed beneath them. Contact Rochester Public Utilities at 507-288-1579 with any questions regarding location of power lines.
- If the deck will encroach on a water or electrical meter, and other equipment such as air conditioners, contact Rochester Public Utilities at 507-280-1500 for regulations on clear space requirements. If the deck is encroaching on a gas meter contact Minnesota Energy Resources Corp. at 800-252-1166 or website: [www.gopherstateonecall.org](http://www.gopherstateonecall.org), or your gas supplier.

### **Required Inspections**

- **Every effort is made to perform all inspections the next business day following the request. Inspection requests must be received prior to 4:30 pm if the request is for next day service. Call 507-328-2600 to schedule an inspection. Please have your permit number available when you call. Inspectors' work schedules fill up fast at certain times of the year, so if you can call more than a day in advance you may avoid any potential delays in the progress of your project.**
- **Footings:** To be made after the holes are dug to required depth and size, but **prior to pouring of the concrete!!**
- **Final:** To be made upon completion of the deck and finish grading.
- **Other Inspections:** In addition to the above inspections, the inspector may require other inspections to ensure compliance with the code.

### **General Notes**

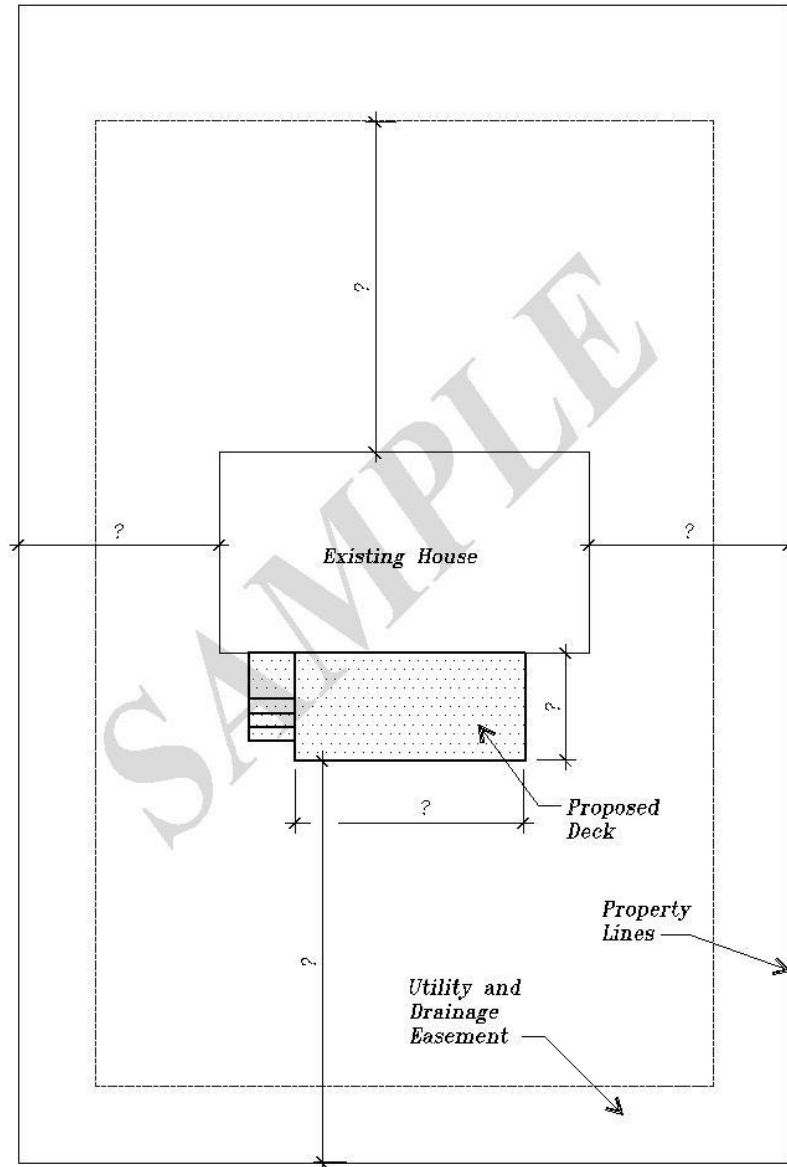
- The stamped approved set of plans, survey & inspection card shall be kept on the job site until the final inspection has been made and approved.
- **All contractors must be licensed by the State of Minnesota, or have a Certificate of Exemption from the State of Minnesota.**
- **Call Gopher One at least 2 full days before you dig at 1-800-252-1166 or see website: [www.gopherstateonecall.org](http://www.gopherstateonecall.org). Gopher One's office hours are 7 am – 5 pm Mon. – Fri.**

# SAMPLE SITE PLAN

Roadway

Curb

Boulevard



*Note:*

*Show any additional structures that exist on the property (i.e. Pool, Shed etc.)*

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IRC 2000

3/5/04

## **DECK PERMIT REQUIREMENTS**

--All of the below must be clearly noted on pertinent locations of drawn plans--

- **SITE PLAN** with proposed location
- **DIMENSIONS** of deck
- **FOOTINGS**
  - Size
  - Thickness
  - Depth
  - Materials
  - Locations
- **POSTS**
  - Size
  - Location
  - Connection to footings
  - Materials
- **BEAM(s)**
  - Size
  - 2-3 ply connections
  - Materials
  - Cantilever over columns
- **POST AND BEAM CONNECTIONS**
  - Side mount
  - Cap mount
  - Notch mount
  - Using mechanical fasteners, not just carriage bolts
- **LEDGER BOARD**
  - Flashing
  - Size
  - Lag screws or pre-approved connectors
  - Connections pattern
- **JOISTS**
  - Size
  - Location
  - Spacing
  - Cantilever over beam
  - Connection to ledger
  - Connection to beam

- **LATERAL LOAD CONNECTORS**
  - Each deck needs 3000 total pounds allowable stress capacity
    - 2 or 4 evenly spaced along deck, depending on connector
  - A minimum embedment for fasteners
  - Mounting location (bottom/side)
- **DECKING**
  - Lumber type
  - Composite
    - Must be an approved assembly
  - Direction of decking
- **GUARDS**
  - All decks more than 30" from grade require a guard rail at least 36" in height from decking
  - Spindles/balusters may not having an opening greater than 4"
  - Spacing between decking and bottom rail may not be greater than 4"
  - Assemblies must be rated to withstand 200 pounds of pressure
- **STAIRS**
  - Width
  - Maximum rise of 7 ¾"
  - Minimum tread/run of 10"
  - Guard rail on both sides (over 30" above grade)
  - If more than 3 risers, a hand rail is required on one side at least.
  - Stringer size and spacing
- **HANDRAIL ON STAIRS**
  - Must be between 34" and 38" from tread of stairs
  - Must be continuous from top nosing to bottom nosing and returned
  - Must meet applicable codes for graspability